

REMARKS

Claims 26 and 27 are amended herein. No new claims are added. Upon entry of these amendments, claims 26, 27, 30, 31, 33, and 43-45 are presented for examination.

CLAIM REJECTION UNDER 35 USC 112

Claim 26 stands rejected under 35 USC 112, second paragraph, as allegedly being indefinite for failing to particularly claim the subject matter which Applicants regard as the invention, based on alleged translation error. The Examiner states “Countersynchronism essentially means not simultaneously.” However, no support for this assertion is provided, and Applicants have not been able to find support for the Examiner’s stated meaning in standard dictionaries. It is recognized that Applicants may be their own lexicographer, such as by giving a term used in the claims a special meaning in the description, so long as the term is not given a meaning repugnant to the usual meaning of the term (see MPEP 608.01(o)). Nonetheless, to advance this application to allowance, Applicants have substituted in claim 26 a phrase, herein underlined, from the sentence in paragraph 0053, “For this purpose, they oscillate in countersynchronism, that is to say with a displacement of 180 degrees, . . .”. This is shown in Figures 4a and 4b.

Accordingly, withdrawal of this claim rejection is respectfully requested.

CLAIM REJECTIONS UNDER 35 USC 102 or 103

Claims 26, 27, 30, 31 and 33 stand rejected under 35 U.S.C. 102(b) as allegedly anticipated by, or in the alternative, under 35 USC 103(a), as obvious over Daikin Industries EP 517249.

Applicants have amended claims 26 and 27 by adding the adjective “pure” to more clearly describe the nature of the translational movement that the drive mechanism provides. This is supported in the specification, paragraph 0047, last sentence. The pure translational movement, which may be viewed to be equivalent to a pure linear movement along the axis that is perpendicular to the flow direction axis, is effective to generate the eddies when done at a

particular speed. This pure translation movement is depicted in Figure 2a as well as in other figures which depict drive movement providing such movement.

The movement in EP 517249 is quite different as its purpose is to create a flow (emulating insect wing flow patterns) rather than to create eddies that may perturb a flow presented to it (such as in the present invention such as for improving heat exchange, etc.). Thus, this movement, as taught in EP 517249, generated by a rotating crank, takes the profiles through a range of axes of movement whose center is the axis perpendicular to the flow direction axis. Apart from this clear difference based on the current claim amendment, it would not be appropriate to use EP 517249 in any combination with other references to present a rejection since to modify EP 517249 from its flow-generating function would render the prior art unsatisfactory for its intended purpose (see MPEP 2145 X.D.).

Based on the above amendment and reasoning, in any combination, withdrawal of this rejection is respectfully requested.

Claims 43-45 stand rejected under 35 USC 103(a) as being allegedly unpatentable over Kim 4667900 in view of Witold Eisner et al. (GT-2002-30234) and/or Raisbeck 4844382.

The Examiner states that Kim teaches a device with profiles/vanes 19 rotatable with respect to the part 18, and that these vanes are moved by actuators/external drive. The Examiner further admits that Kim is silent on a row of stationary vanes arranged offset from a projected path of vortices generated by the profiles.

Eisner et al. is put forth as a first supporting reference, stated to teach that stationary vanes “are well known to be placed behind periodic upstream wakes that can be produced by the profiles.” However the Applicants’ reading of Eisner et al. finds no support for any teaching of an offset arrangement as described and claimed herein. Eisner et al. uses a rotating wheel with 80 cylindrical rods to generate a flow that includes wakes formed upstream of the five blades of the test section, which appear to be set 70 mm from the rotating bars (see first two paragraphs of 2. Experimental Details). Further, Applicants respectfully assert that Eisner et al., given the rotation of the 80 cylindrical rods (see Fig. 1 and related description) rotate and therefore could not lend themselves to generation of vortices along a vortex generating row as claimed in claim

43, nor, due to the constant rotation, do the rods lend themselves to generating a projected path of vortices from which the stationary vanes are offset (i.e., vortices, if formed, would be generated continuously along the path of rotation).

For one or more of these reasons, in any combination, Eisner et al. is not relevant to the rejection of claims 43-45, and any rejection using it should be withdrawn. Accordingly, the rejection of claims 44 and 45, for the additional bases provided, are properly overcome and withdrawal is respectfully requested.

As to Raisbeck, although it shows a stationary vane upstream of an engine is known, it does not teach nor suggest the arrangement of the row of stationary vanes in claim 43. There is a reason for the offset placement of this row of stationary vanes that clearly goes beyond the mere presence of upstream vanes as taught by Raisbeck. Accordingly, it is Applicants' view that Raisbeck is not an appropriate reference to combine with Kim or Kim and Eisner et al. to teach all elements of claim 43, and accordingly any rejection based on use of Raisbeck should be withdrawn. Accordingly, the rejection of claims 44 and 45, for the additional bases provided, are properly overcome and withdrawal is respectfully requested.

It is further stated that a *prima facie* case of obviousness has not been met since a reason for combining the reference that includes the row of stationary vanes arranged offset from a projected path of vortices generated by the respective profiles has not been provided. Therefore, not all claim elements have been recited among the references and any reason provided is neither rationale nor reasonable.

For any of the above reasons, in any combination, withdrawal of the rejections of claims 26, 27, 30, 31, 33 and 43-45 is respectfully requested.

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Conclusion

The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including the fees specified in 37 C.F.R. §§ 1.16 (c), 1.17(a)(1) and 1.20(d), or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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